REMARKS

Claims 1-10 are pending in this application. By this Amendment, claim 1 is amended to address RU 2017866 ("Chernykh") and is supported by original claim 1, page 1, lines 30-31, page 2, lines 13-17 and page 3, lines 20-37 of the specification. Claim 2 is amended for consistency with claim 1 and is supported by original claim 1 and original claim 2. Claim 3 is amended for antecedent basis. Claims 6-9 are added and supported by page 3, lines 8-10 of the specification. Claim 10 is added and is supported by original claim 1, page 1, lines 30-31, page 2, lines 13-17 and page 3, lines 20-37 of the specification. No new matter is added by this Amendment.

I. Interview

The courtesies extended to the inventor and Applicant's representatives by Examiner Listvoyb and Examiner Sargent at the interview held September 5, 2008, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below, which constitute Applicant's record of the interview.

II. Rejection Under 35 U.S.C. §103(a)

Claims 1-5 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over RU 2017866 ("Chernykh") in view of U.S. Patent No. 5,646,234 ("Jung") and in further view of Encyclopedia of Pol. Sci. and Tech, Polyamides, vol. 3, p. 565-567 ("Encyclopedia"). Applicant respectfully traverses this rejection.

A. Claim Amendments

During the interview, Examiner Listvoyb alleged the aramid product solutions formed by the processes described in Chernykh and Jung could have been precipitated to form crumbs within the polymerized solution. However, claim 1, as amended, recites a method for obtaining an aromatic polyamide, in the form of a crumb, containing para-phenylene terephthalamide and 2-(p-phenylene)benzimidazole terephthalamide units, by copolymerizing

PPD, DAPBI and TDC in a mixture of N-methyl pyrrolidone and calcium chloride, wherein the crumb is formed directly by the copolymerizing. Post-precipitation of the crumb, even if possible, does not describe or render obvious the process of claim 1. Furthermore, claim 10 recites a method for obtaining an aromatic polyamide, in the form of a crumb, containing para-phenylene terephthalamide and 2-(p-phenylene)benzimidazole terephthalamide units, the method consisting of copolymerizing para-phenylenediamine (PPD), 5(6)-amino-2-(p-aminophenyl)benzimidazole (DAPBI) and terephthaloyl dichloride (TDC) in a mixture of N-methyl pyrrolidone and calcium chloride. Any possible post-copolymerization formation of the crumb is excluded in claim 10.

B. Distinctions Between Present Claims 1 And 10 And Chernykh, Jung and Encyclopedia

As described above, the processes recited in claims 1 and 10 form a crumb during the step of copolymerizing the PPD, DAPBI and TDC materials. In contrast, the processes of Chernykh and Jung merely describe forming copolymer in a solution by copolymerizing the PPD, DAPBI and TDC materials, not a copolymer in the form of a crumb, and thus teach away from the subject matter described in present claims 1 and 10. Thus, the copolymer recited in the present claims 1 and 10 forms a crumb directly by the copolymerization and does not require any additional step of "precipitating" out a crumb from the copolymerized solution containing the copolymer. Chernykh and Jung thus do not describe or render obvious the methods of claims 1 and 10, or the crumb of claim 2.

Jung describes the addition of alkali metal halides and alkali earth metal halides, such as lithium chloride and calcium chloride, as solubility-promoting additives. See Jung, col. 3, lines 24-35. In other words, Jung uses alkali metal halides and alkali earth metal halides to keep the polymer in a solution (i.e., not a crumb) should the solubility of the polymer be too low to keep the polymer in solution without the addition of such a salt. Moreover, in

Example 8 of Jung, DABI (synonymous with DAPBI of the present claims) is used in a polymerization reaction performed according to the method of Example 1 of Jung, but without a solubility-promoting additive. However, the solubility of the polymer in solution described in Example 8 is high enough so as to not require the addition of a solubility-promoting additive. If a solubility-promoting additive was added to the polymer of Example 8, it would have been expected, in view of Jung's teachings, that the solubility of the polymer of Example 8 would have been increased. As such, it is clear that a crumb is not produced by the copolymerization of Jung.

Chernykh is similar to Jung in this respect. In Example 1 of Chernykh, 2.8% LiCl was added to form a polymer solution, which can be filtered, degassed and spun to a fiber. As such, in Chernykh, LiCl has therefore been added as a solubility-promoting additive. Chernykh thus clearly describes forming a polymer solution suitable as a spin dope, and does not describe the formation of a crumb directly from copolymerization.

According to the process of present claims 1 and 10, the polymer in the mixture should be directly converted to an insoluble crumb during the copolymerization. Thus, Chernykh and Jung teach away from the subject matter in present claims 1 and 10. Neither reference would have provided any reason or rationale to have formed an insoluble crumb directly during copolymerization.

In view of Jung and Chernykh, it was remarkable and unexpected that the use of calcium chloride to form DAPBI based aramids from the processes recited in claims 1 and 10 does not increase the solubility of the polymer, but to the contrary leads to the formation of an aramid crumb during copolymerization.

Encyclopedia does not remedy the deficiencies of Chernykh or Jung.

Encyclopedia describes that the copolymerization of PPD and TDC directly forms an aromatic polyamide (PPTA) in the form of a crumb. See Encyclopedia, page 565, lines 14-

20. These crumbs are known and highly desired as the purification of crumbs is relatively easy and the processability is high. See page 2, lines 10-11 of the specification. However, Encyclopedia does not describe a crumb or method of forming the crumb where the crumb is formed during the step of copolymerization of the PPD, DAPBI and TDC materials. Applicant alone has determined that if a portion of PPD is replaced by DAPBI, the proper ratio of PPD, DAPBI and calcium chloride must be used and the other conditions recited in claim 1 satisfied or the aramid polymer will not form a crumb during copolymerization, but a sticky paste, dough or powder. See page 2, lines 21-22 of the specification.

As such, none of the references describe how one could have replaced a portion of PPD with DAPBI and still obtained a crumb during the step of copolymerizing the PPD, DAPBI and TDC materials. Further, none of the references describe (1) the modification of PPD with DAPBI and (2) the amounts of PPD, DAPBI and calcium chloride required to obtain a crumb. Thus, the cited references would not have provided one of ordinary skill in the art with any reason or rationale to have modified the different compositions of Chernykh, Jung or Encyclopedia to form the crumb polyamide of claim 2 with any reasonable expectation of success. Nor would the references have led one of ordinary skill the art to the processes of claims 1 and 10, as the references fail to describe how to directly obtain the polyamide in crumb form from copolymerization.

C. Conclusion

In view of the foregoing arguments and amendments, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-10 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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